Delaware River Basin Commission
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UNITED STATES OF AMERICA

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Steven J. Tambini, P.E.
Executive Director

Minutes
Water Quality Advisory Committee
September 30, 2019

Members & Alternates:

NYS DEC
Sarah Rickard (remotely)
EPA
Kuo-Liang Lai (remotely)
Wayne Jackson (remotely)
NJDEP
Frank Klapinski
Environmental
Maya van Rossum (Delaware Riverkeeper Network)
Regulated Community Industrial
Bart Ruiter (Chemours)
DNREC
Dave Wolanski (remotely)
PADEP
Jennifer Orr-Greene
Academia/Science
John Jackson
Local Watershed Organizations
Abigail Pattishall
Regulated Community Municipal
Jay Cruz (PWD)
Bryan Lennon (Wilmington Public Works)
National Park Service
Rich Evans (remotely)

Other Attendees:
Alice Baker (Penn Future)
John Yagecic (DRBC)
Namsoo Suk (DRBC)
Ron MacGillivray (DRBC)
Elba Deck (DRBC)
Li Zheng (DRBC)
Elaine Panuccio (DRBC)
Jake Bransky (DRBC)
Helen Pang (NJDEP)
Ian Piro (Isle Utilities)
Tom Amidon (DRBC)
Kelly Somers (EPA)
Kelly Anderson (PWD)
Steve Seeberger (NJDEP)
Kristin Regan (EPA)
Bill Brown (PADEP, remotely)
Charles Hurst (Delcora, remotely)
Katherine Bently (EPA, remotely)
Don Hamilton (NPS, remotely)
Greg Voigt (EPA, remotely)
Greg Wacik (USACE, remotely)
Biswarup Guha (NJDEP)
Nicole Brown (AECOM)
Christopher Curran (AECOM)
Meg McGuire (Delaware Currents)
Eloise Gibby (Greeley and Hansen)
Marzooq Alebus (NJDEP)
Sheila Eyler (USFW, remotely)
Eric Vowinkel (Rutgers University)
Michael Dillon (Manko Gold Katcher & Fox)
Erik Silldorff (Delaware Riverkeeper Network)
Jean Malafronte (ANDRIS Consulting)

The meeting was called to order at approximately 9:40 AM by John Yagecic, temporarily filling in for Bart Ruiter.

Meeting Minutes

Draft minutes from the May 14, 2019 meeting had been previously provided to members for review.

John Jackson moved that the May 14, 2019 minutes be approved, and Frank Klapinski seconded the motion. The minutes were unanimously approved.

Approved minutes are posted on the DRBC web site at:
https://www.nj.gov/drbc/library/documents/WQAC/051419/minutes.pdf

Election of WQAC Chair

Bart Ruiter's term as chair of the WQAC ended. DRBC inquired with several members to see who might be available to serve as chair. Frank Klapinski of NJDEP is available. Jay Cruz moved to elect Frank Klapinski as chair and Maya van Rossum seconded the motion. Frank Klapinski's election as chair was unanimously approved. Frank Klapinski will serve as chair for a period of approximately one year.

Discussion of Draft Report on Non-DO Nutrient Endpoints

DRBC issued a task order to the Academy of Natural Sciences of Drexel University (ANSDU) in 2018 to query literature and experts with a goal of developing a limited prioritized list of non-DO estuary nutrient endpoints that could inform nutrient criteria selection. This task order was developed in response to discussions at a prior WQAC meeting. ANSDU completed a draft of the resulting report and DRBC sent the draft report to the WQAC and participants by e-mail dated September 3, 2019. DRBC allowed a 90-day review period, requesting comments by December 6, 2019.

The group discussed the draft report. John Jackson recommended that the report be expanded to include considerations of nutrient impacts on tidal marshes (ranging from submerged to terrestrial) and epiphytic density, for which a larger body of existing literature is understood to exist. Jackson also recommended that ANSDU add a summary or synthesis to the report. Erik Silldorff indicated that the report should consider site-specific endpoints to address indirect nutrient impacts. Silldorff recommended that ANSDU consider evaluations of broad findings developed for other systems including San Francisco Bay and coastal eutrophication studies. Silldorff indicated that each system is different and will respond differently. Silldorff indicated that the Delaware Estuary may be more similar to San Francisco Bay in some respects than it is to Chesapeake Bay. Maya van Rossum suggested that potential harms associated with high nutrient conditions are being overlooked.

Both Jackson and Silldorff agreed to provide comments and citations of other work that ANSDU should consider. Yagecic agreed to provide those items to ANSDU upon receipt to allow for additional time for consideration and incorporation.

Nutrient Criteria Plans

John Yagecic reviewed the time line of nutrient criteria plans developed by DRBC. DRBC published a nutrient criteria plan on its website in 2013. Under that plan, DRBC would address revised DO criteria first, followed by a more comprehensive effort to develop numeric nutrient

criteria. In subsequent years, the Commission deliberated on its approach to DO criteria and the completion date targets listed in the 2013 plan were not met.

As part of its Clean Water Act 106 Grant coordination, EPA indicated that 106 Grant funding could be withheld due to the missed completion date targets in the 2013 plan and DRBC not having developed a revised nutrient criteria plan. After discussion and negotiation, EPA agreed that 106 Grant funding would not be withheld provided that a revised nutrient criteria plan be submitted to EPA no later than November 30, 2017 and that the plan call for numeric nutrient criteria targets to be developed concurrently with revised DO criteria. DRBC agreed that providing criteria and/or limits (DO, ammonia, ammonia toxicity, TN, and TP) in the same rulemaking would provide a higher level or certainty to the regulated community.

DRBC submitted to EPA a revised draft nutrient criteria plan in November 2017 and shared the draft plan with the WQAC by e-mail dated March 29, 2018. The revised draft 2017 plan envisioned using the eutrophication model to identify ambient TN and TP levels consistent with new DO criteria and establish those TN and TP levels as nutrient criteria. Several stakeholders submitted comments to DRBC on the revised draft 2017 nutrient criteria plan. One agenda item for the May 2019 WQAC meeting was response to those comments. At that meeting, several members requested a special meeting in the fall focused primarily on the nutrient criteria plan. This meeting of the WQAC (September 30, 2019) was that special meeting. DRBC re-shared the revised draft 2017 nutrient criteria plan in preparation for the special meeting, which prompted a new round of comments including a second round of new comments from EPA and a letter to the WQAC from the Delaware Riverkeeper Network (attached).

Several stakeholders expressed dissatisfaction with the 2017 plan approach especially on single chemical (DO) endpoint. John Jackson pointed to a lack of cause and effect from TN and TP in the 2017 plan. Jackson indicated that the effects of low DO were more obvious but that the low DO might mask the impacts of elevated nutrients. John Yagecic and Tom Amidon explained that DRBC plans to evaluate the potential impact of nutrients on primary productivity utilizing the model currently under development, and to establish nutrient criteria concurrent with the designated use evaluation to the extent such criteria are scientifically defensible.

Erik Silldorff presented slides indicating that 1) the Delaware River estuary is a high nutrient system due largely to anthropogenic inputs; 2) the system is a high-energy system that does not stratify, preventing the pervasive DO depletions observed in other systems; and 3) a scientific consensus exists to support nutrient criteria.

Jay Cruz indicated that DO is recognized as a problem and dischargers see the need to address that problem. Jay Cruz stated it was unclear what other nutrient problem existed in the Delaware.

Marco Alebus of NJDEP suggested that it might be better to deal with known impacts such as dissolved oxygen, rather than speculating on potential impacts. Also, Mr. Alebus noted that nutrients are not likely limiting productivity under current conditions.

The group discussed the previous activity and recommendations of the nutrient subcommittee from the 2008 – 2009 time period. In their letter, Delaware Riverkeeper Network recommended re-convening nutrient criteria subcommittee. Bart Ruiter expressed support for this

recommendation. The group discussed whether nutrient criteria plan development should be deferred until after the model is completed. There was also discussion about what the recommendation actually was regarding sequencing of revised DO criteria and nutrient criteria. Steve Tambini reminded the group that DRBC staff has an obligation to follow Resolution 2017-4. Committee members also asked about the levels of dissolved oxygen that will be considered in the use attainability analysis based on the DO needs study performed by ANSDU, and how the DRBC intended to perform its highest attainable use evaluation.

For the upcoming November meeting, the group sought to have DRBC summarize what it understood the consensus to be, and to better describe its approach to implementing Resolution 2017-04, for further discussion and consideration.

Follow-up Requests

Bart Ruiter requested that DRBC prepare to discuss how use attainability will be considered in the designated use / DO project at the next meeting.

Jay Cruz requested that PWD's comments on the DO needs report be addressed.

Adjournment

Bart Ruiter moved to adjourn and Jay Cruz seconded the motion. The motion passed unanimously and the meeting adjourned at approximately 1 PM.

DELAWARE RIVERKEEPER NETWORK

To: Water Quality Advisory Committee

From: Maya K. van Rossum, the Delaware Riverkeeper & Erik Silldorff, Senior Scientist, Delaware Riverkeeper Network

Date: Sept 27, 2019

Re: Concerns Regarding Draft Non-DO Estuary Nutrient Endpoints; Opposition Regarding Proposal to Limit Nutrient Focus to DO Endpoint Only; Proposed Alternative Resolution for Scientifically Defensible and Valid Next Steps Honoring the DRBC Stakeholder Committee System

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The Delaware Riverkeeper Network does not believe that focusing only on Dissolved Oxygen in setting numeric nutrient criteria is scientifically defensible; nor do we think having the DRBC unilaterally proposing a DO-only strategy is in keeping with the practice of the DRBC or the WQAC to ensure decisions include and engage representative stakeholders in the decisionmaking process.

The Delaware Riverkeeper Network proposes an alternative resolution for consideration by the Water Quality Advisory Committee at its September 30, 2019 meeting regarding advancing numeric nutrient criteria for the Delaware River and Estuary.

Setting nutrient criteria using a Dissolved Oxygen Only endpoint is not scientifically defensible. DRBC has proposed using a single chemical endpoint, Dissolved Oxygen, as the sole basis for setting numeric nutrient criteria in the tidal Delaware River & Estuary. The Delaware Riverkeeper Network strongly opposes this narrow, unsupportable approach for dealing with the multiple impacts of anthropogenically-elevated nitrogen and phosphorus in our River's complex ecosystems.

- The DRBC DO-Only approach fails to recognize that the tidal Delaware River & Estuary is among the most nutrient-rich estuaries in the United States and the world. A wealth of scientific literature and direct comparisons have documented the human-induced increases in both nitrogen and phosphorus here in the Delaware, and the continued high concentrations and loadings relative to other regional and world-wide estuaries.

- The DRBC fails to recognize that there is strong scientific consensus that both the assessment of coastal eutrophication and the broader assessment of a river's ecological health requires the evaluation of multiple chemical and biological endpoints. Across a range of federal and state agencies (e.g., USEPA, NOAA, NJDEP, PADEP, DNREC), coastal systems traditionally are

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evaluated by measuring and assessing water quality parameters such as Dissolved Oxygen in concert with a suite of additional chemical and biological endpoints.

- The DRBC-commissioned study by the Academy of Natural Sciences demonstrates the multiple and complex pathways by which nutrients affect aquatic ecosystems and confirms that a DO-Only approach fails to consider or address the ecological needs of the Delaware River system.

While the DRBC DO-Only "shortcut" approach (i.e., looking at a single chemical endpoint) for setting nutrient criteria could conceivably be appropriate in an estuarine setting with naturally low nutrient concentrations, in an estuary that has among the highest nutrient concentrations and loadings in the world, such a shortcut approach could be devastating and forever alter the restoration trajectory of the Delaware River's ecologically and economically critical ecosystems.

Setting scientifically and legally defensible nutrient criteria demands evaluation of endpoints and responses specific to the Delaware River.
Instead of a "fringe" idea brought forth by only a minority of DRBC's stakeholders, a multiple-endpoint approach to assessing and setting nutrient criteria is the mainstream scientific approach for addressing complex ecosystems such as the Delaware Estuary. From the Chesapeake Bay to Barnegat Bay to the San Francisco Bay, coastal eutrophication is recognized as a many-faceted challenge with a multitude of harmful impacts the solutions for which require careful consideration of multiple endpoints as well as the specific ecosystem's response.

DRBC has a long history of grounding its decisions in science. By contrast, advancing a DO-Only approach for setting nutrient criteria ignores decades of scientific consensus and threatens DRBC with credible accusations that they are being guided by political expedience rather than credible and defensible scientific findings and its obligations as a multi-state regulatory commission to protect the water resources and many stakeholders of the Delaware River basin

DRBC must prioritize raising the Dissolved Oxygen criteria of the Delaware Estuary from 3.5 mg/l to 6.3 mg/l in order to protect fish populations and secure needed near-term reductions in nutrient contamination in the Delaware.
To advance near term reductions in nutrient loadings, to address the acknowledged weakness of current DRBC DO criteria, to protect fish propagation and migration, and to support increasing the Delaware River fishery including related commercial and recreational benefits, the DRBC must prioritize raising the Estuary DO criteria to a minimum of 6.3 mg/l in keeping with the findings of the Academy of Natural Sciences' earlier evaluation of the DO requirements of estuary-specific species.

DRBC should re-constitute the nutrient subcommittee in order to consider the appropriate set of endpoints for assessing needed nutrient reductions.
In order for any proposed nutrient criteria for the Delaware Estuary to be scientifically defensible and protective of the estuary's existing and designated uses, DRBC must harness the resources and knowledge of experts, stakeholders, and the underlying science to develop criteria that would not only address dissolved oxygen limitations, but better protect the River's entire ecological system. DRN proposes that the WQAC revive its nutrient subcommittee in order to consider and drive a scientifically-based process to identify the appropriate chemical and biological endpoints to measure, and to assess the concentrations and loadings of nutrients that will protect and/or restore the many designated and existing uses of Delaware River waters.

In sum, the WQAC should pass a resolution that rejects a DO-only approach to nutrient criteria, supports passage of strengthened oxygen criteria, and recommends that DRBC utilize the standard and accepted committee structure to enlist the appropriate experts, stakeholders and resources to identify the scientifically appropriate set of endpoints for developing Delaware River specific nutrient criteria.

DRN proposes the passage of a resolution whereby the WQAC:

1. formally rejects the proposal from DRBC to consider only a single chemical endpoint, Dissolved Oxygen, for developing nutrient criteria in the Delaware Estuary;
2. recommends that DRBC reconstitute the Nutrient Subcommittee to assess and recommend the appropriate endpoints upon which to base revised nutrient criteria, and undertake the challenge of setting fully protective nutrient criteria for the tidal Delaware River & Estuary; and
3. take strides towards addressing high nutrient loadings and needed dissolved oxygen levels by passing, within the next 12 months, revised dissolved oxygen criteria of 6.3 mg/l for the entire Delaware Estuary.